Space Weather Forecast

Issued on Saturday, 18 June 2022 at 13:24 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

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Space Weather Forecast Headline: Daily chance of an isolated Moderate-class flare.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity is Low with a reducing number of Common class flares. There are currently nine numbered sunspot regions and one simple new region on the visible side of the solar disc. Most of the spot groups are relatively simple, with some showing minor decay. No Earth-directed Coronal Mass Ejections (CMEs) have been observed from available imagery.

Solar Wind / Geomagnetic Activity: The solar wind is indicative of a coronal hole fast wind which has been around 600km/s in recent hours, with an observed peak of 698 km/s at 17/1405UTC. The Interplanetary Magnetic Field was weak, while the north-south component fluctuated weakly. Geomagnetic activity was Quiet to Unsettled (Kp 2-3).

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is likely to be Low with a daily chance of an isolated Moderate-class flare and a slight chance of a Strong flare.

Solar Wind / Geomagnetic Activity: No CMEs are currently expected to affect Earth during the period. Solar winds are anticipated to remain elevated, perhaps occasionally strong over the next two to three days, due to coronal hole influences. Solar winds then probably declining from Day 3 into Day 4 (20-21 June). Quiet to Unsettled geomagnetic activity continuing ,with a chance of an Active or even a slight chance of a G1/Minor Storm interval on Day 1 (18 June). Geomagnetic activity becoming largely Quiet through Day 3 into Day 4 20-21 June).

Energetic Particles / Solar Radiation: There is a slight chance of an S1 or greater solar radiation storm event occurring.

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Met Office Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	5	1	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	30	30	30	30
Very Active	R3 to R5 X	No	5	5	5	5

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	5	5	5	5
Very Active	≥ S3 *	No	1	1	1	1
* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)						

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